



South African Market – Update

Redflow is pleased to advise that Vodacom, one of Africa's leading telecommunication companies, has advised that it has commenced deploying Redflow zinc-bromine flow batteries to mobile base stations in South Africa in response to vandalism and theft of lead-acid and lithium batteries.

Redflow announced on 18 September 2019 that it had won an order from its partner, Mobax, to provide 68 ZBM2 zinc-bromine flow batteries for at least 20 mobile phone tower sites in South Africa.

Vodacom, the owner of the tower sites, is already deploying Redflow's flow batteries to reduce the operating costs associated with diesel-powered base stations. Moropa, another key Redflow partner in South Africa, has also deployed Redflow's batteries in its deep rural towers to support the Vodacom network.

Vodacom's new use of the ZBM2 specifically to manage battery theft and vandalism is a significant commercial development for Redflow in the large African market. It provides meaningful external validation by a major player in the African telco market of Redflow's belief that the ZBM2 battery's resistance to theft and vandalism is an important competitive advantage for the product in the large African market and other emerging economies.

The unique properties of the Redflow solution are seen by Vodacom as being less attractive to criminals targeting base stations across South Africa.

Theft of Lithium and Lead acid batteries, often conducted by criminal syndicates, are wreaking havoc in the country. One large operator has reported they were experiencing five to 20 incidents of vandalism or theft every day. As a result, network operators are spending tens of millions of dollar on replacing stolen batteries and additional security measures.

Operators say the battery theft is an issue of national concern affecting not only operators but consumers and businesses whose service may be cut off completely in some areas.

Unlike a lead-acid or lithium battery system, the 10 kWh Redflow solution does not consist of battery cells and cannot be broken down into individual components that can be transported, sold, or re-used as batteries.

The 240kg battery is mainly constructed of heavy-duty plastics and liquid electrolyte. The Redflow units contain 100 Litres of free-flowing bromine electrolyte which is perfectly safe when the battery is installed but requires trained personnel and equipment to move and handle the battery safely.



The Redflow battery also contains a number of mechanical, software and location-based features which not only stop a device from working if it is moved, but can also trace the battery and identify it as coming from a specific Vodacom location.

Redflow Managing Director Tim Harris commented “We are delighted that we are extending our relationship with Vodacom and our telco partner Mobax not only to improve the operational bottom line for off grid sites with one of the region’s largest telco operators, but also help them to address the major issue of battery theft. A number of the 68 batteries purchased by Vodacom in September have now been deployed by Mobax at both diesel sites and theft-prone locations. Mobax will continue to deploy the remainder in the New Year. This is an important development to Redflow and our investors; it is further evidence of the role our innovative flow battery solution can play in the telco market in South Africa and beyond. ”

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About Redflow www.redflow.com

Redflow Limited, a publicly listed Australian company (ASX: RFX), produces small 10kWh zinc-bromine flow batteries that tolerate daily hard work in harsh conditions. Marketed as [ZCell](#) and [ZBM2](#), Redflow batteries are designed for high cycle-rate, long time-base stationary energy storage applications in the residential, commercial & industrial and telecommunications sectors, and are scalable from a single battery installation through to grid-scale deployments. Redflow batteries are sold, installed and maintained by an international network of energy system integrators. Redflow’s smart, self-protecting batteries offer unique advantages including secure remote management, 100 per cent daily depth of discharge, tolerance of high ambient temperatures, a simple recycling path, no propensity for thermal runaway and sustained energy delivery throughout their operating life.